

FEATURES

- 8 Pin SIL Package
- Wide 2:1 Input Range
- 1500 VDC Isolation
- Continuous Short Circuit Protection
- Remote on/off Control Optional
- Cost Effective; RoHS ✓

GENERAL DESCRIPTION

The VMG series is a family of cost effective 3 W single & dual output DC-DC converters with 1kVDC isolation. These converters achieve low cost and miniature SIL size without compromising performance or field reliability.

Models operate from an input bus voltage of 5, 12, 24 and 48 VDC offering output voltage levels of 3.3, 5, 9, 12, 15, 24, ± 3.3 , ± 5 , ± 9 , ± 12 , ± 15 or ± 24 VDC.

SIL 8 Package - Standard Types					
Type Number	Input Voltage [VDC]	Output Voltage [VDC]	Output Current [mA]	Efficiency 05/12/24/48 [%]	Cap. Load [μ F]
VMG-xx3R3S3	5, 12, 24, 48	3,3	700	74/76/74/75	2200
VMG-xx05S3		5,0	600	76/81/79/78	1000
VMG-xx12S3		12,0	250	82/84/82/81	470
VMG-xx15S3		15,0	200	82/84/82/81	220
VMG-xx05D3	5, 12, 24, 48	$\pm 5,0$	± 300	77/80/80/78	± 470
VMG-xx12D3		$\pm 12,0$	± 125	81/83/83/80	± 220
VMG-xx15D3		$\pm 15,0$	± 100	82/82/83/81	± 100

xx	input voltage
	05 (4.5 – 9VDC)
	12 (9 – 18VDC)
	24 (18 – 36VDC)
	48 (36 – 72VDC)
Suffix C	remote on/off

ELECTRICAL SPECIFICATIONS

Specifications typical at +25°C, nominal Input voltage, rated output current unless otherwise specified.

Input Specifications

2:1 Input Voltage Range	5Vdc nominal	4.5-9Vdc
	12Vdc nominal	9-18Vdc
	24Vdc nominal	18-36Vdc
	48Vdc nominal	36-72Vdc

Filter	Capacitors
Input Reflected Ripple Current (measured with a simulated source inductance of 12uH)	35mA pk-pk

Isolation Specification

I/O Isolation Voltage 1 Minute	1600 VDC, Standard
Resistance	10 ⁹ Ω
Capacitance	680 pF, max.

Output Specifications

Voltage Accuracy	±1%, max.
Ripple and Noise (20 MHz BW)	75mVp-p, max.
Short Circuit Protection	Continuous
Short Circuit Restart	Automatic
Line Voltage Regulation	±0.5%
Load Voltage Regulation	±1%, Load=25~100%
Temperature Coefficient	±0.02%/°C
Minimum Load	25%

General Specifications

Efficiency	74% to 84%
Switching Frequency	100kHz, min.

SIL 8 Package

1 and 3kVDC Isolation				
Pin	Single Output	Dual Output	Single Output "C" Option	Dual Output "C" Option
1	-V Input	-V Input	-V Input	-V Input
2	+V Input	+V Input	+V Input	+V Input
3	Omitted	N.C.	Remote On/Off	Remote On/Off
5	Omitted	N.C.	N.C.	N.C.
6	+V Output	+V Output	+V Output	+V Output
7	-V Output	-V Output *	-V Output	-V Output *
8	N.C.	Common *	N.C.	Common *

NC...not connected

* Add Suffix "-T" for alternative Pinning, where the function of Pin 7 and Pin 8 are replaced

Notes:

All dimensions in millimeters (inches).

Tolerance ±0.25mm (0.01).

Specifications can be changed without prior notice.

Products are not intended for and must not be used in life support systems, human implantation, nuclear facilities or systems or any other application where product failure or malfunction of the component could lead to loss of life or catastrophic property damage

Remote ON/OFF Control ("C" Option)

Control voltage referenced to negative (-) input
ON open or high impedance
OFF 3-6mA input current (via 1k Ohms)

Environmental Specification

Operating Temperature	-40°C to +85°C
	Derating above +71°C
Max. Case Temperature	+100°C
Storage Temperature	-40°C to +125°C
Humidity	max. 95%, non-condensing
Cooling	Free-air convection
MTBF	2.732 x 10 ⁶ hrs (MIL-HDBK-217F)

Physical Characteristics

Dimension SIP	21.85 x 9.20 x 10.60 mm 0.86 x 0.44 x 0.42 inches
Weight	4.8 g
Case Material	Non-conductive plastic

